



#101811, 749

12-24-2004

Dear Dept. of Commerce: IFW 3671

Please Tell Thomas B Wells

I have all the ans. to his

latest request on AUTOMOBILE
WHEEL AND TRACK SNARE.

Thank you for your
expedient response. We'll
get back to you in due time.

Sincerely,
vice doing business
with you.
Carl R. Keller

APPLICATION

NO. 10-811-799-03-29-2004

APT UNIT 3671-73

NOT ~~RECEIVED~~

102507-914

P.S. # GUESS THEY
BOUGHT my new DRAWINGS?

EXAMINER

THOMAS B WILL

BLEVINS

US 6,206,608 B1

WENT TO PATENT
IN 12 MO. AHEAD
OF OTHER 13-
PATENTS ?
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VEHICLE DISABLING DEVICE

FIELD OF THE INVENTION

The invention is a device to disable vehicles.

BACKGROUND OF THE INVENTION

Police are often encountered with a situation where they need to stop a vehicle. During high speed pursuits, the driver attempts to escape capture and flees the police. The driver, concerned only with escape, often drives recklessly and endangers himself and other drivers on the road. Police are faced with the problem of trying to stop the driver without damage and loss of life.

Police have many techniques to stop run-away drivers. The police utilize road blocks and pursuit by car and helicopter to pursue reckless drivers in the hope that they will eventually abandon the vehicle and attempt to escape on foot. Police often use spikes to deflate tires. Spikes are usually effective in causing the tire to deflate, but often desperate drivers continue to drive on the flattened tires. This results in loss of control of the vehicle and the creation of sparks as the rim contacts the pavement. This only serves to increase the danger presented by the person trying to flee.

The prior art discloses many different types of tire deflators that are designed to disable motor vehicles. U.S. Pat. No. 5,704,445, to Jones, discloses a base 12 that holds spikes 24 at an angle of 45 to 85° relative to the top surface of the base. The spike is held within an aperture 22 of the base and is designed to be released from the base and transferred to the tire after becoming embedded in the tire. The spikes are hollow and provide a conduit for the escape of air.

U.S. Pat. No. 4,995,756 (Killgrew et al) discloses a vehicle tire deflator having an extensible frame having rocker arms 12 provided with hollow spikes. The rocker arms are pivotally connected to one another by supports 11. A series of rocker arms are connected to one another to provide a series of rows of spikes. A tire rolls over the deflator and the spike is withdrawn from the rocker arm. A similar device is disclosed in U.S. Pat. No. 5,253,950, also to Killgrew et al.

U.S. Pat. No. 5,328,292, to Williams, discloses a traffic barrier chain having a pair of spikes connected in an X-shape and connected to one another by a chain to form a row. A similar device is disclosed in U.S. Pat. No. 4,382,714 to Hutchison that has a spike 20 connected to a base 11. The base 11 is provided with a chain 18. The chain is used to connected adjacent deflators, but is provided with a break-away cord or strand.

It is an object of the invention to provide a vehicle disabling device that deflates the tires.

It is another object of the invention to provide a vehicle disabling device that provides obstruction to the free movement of the wheels.

It is still another object of the invention to provide a disabling device that is easily stored and deployed.

It is a further object of the invention to provide a vehicle disabling device that is easily manufactured.

These and other objects of the invention will be apparent after reading the ensuing disclosure.

SUMMARY OF THE INVENTION

The invention is a solid bar having a series of chains that extend perpendicular to the length of the bar. The chains are provided in pairs and connected to one another. At the distal end of the chains, bases are connected between the two chains of a pair. The bases are provided with upstanding spikes. A series of bases having the spikes extend between

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the pairs of chains for a predetermined distance. Between the bar and the closest spike, cross chains are used to maintain the spacing between the chains.

The device is placed on the road so that the vehicle to be stopped first engages the front end having the spikes. The spikes embed into the tire and are maintained there. As the car continues moving across the device, the subsequent spikes also are embedded into the tire and result in the chains being wrapped around the tire. The connection between the pairs of spikes is broken and each pair of chains acts independently. If the car continues across the device, the chains continue to wrap around the tire. At the end of the device, the solid bar is pulled upward and locks itself against the frame of the car. This prevents the wheels from rotating and interferes with the steering of the car. In this manner, the car is safely and quickly brought to a halt.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top view of the device in it's deployed condition;

FIG. 2 is a detailed view of two pairs of chains;

FIG. 3 is a cross-sectional view along line 3—3 of FIG. 2;

FIG. 4 is a side view of a base and spike;

FIG. 5 is a perspective view of a base and spike;

FIGS. 6A through 6E show the sequence of events as a tire rolls over the device and the spikes are retained by the tire; and

FIGS. 7A through 7D show the sequence of steps rolling the device for storage.

DETAILED DESCRIPTION OF THE INVENTION

The vehicle disabling device is seen in the top view depicted in FIG. 1. The device has a rear edge formed by a solid bar 5. Extending from the bar 5 is a series of main chains 10 that terminate at the front edge of the device. It is so denoted the front edge because it is the edge that a vehicle to be disabled first encounters. The main chains 10 are provided in pairs. At the front edge of the device, a series of bases 20, each provided with a spike 30, is provided between each pair of main chains 10. The extend from the front edge that the spikes extend is a function of the size of tire on the vehicle to be disabled. As will be explained hereinafter, the distance from the front edge of the device to the last spike should not be greater than the circumference of the vehicle's tire. For instance, on a typical sized tire for a passenger car is 14 inches. For this reason, the last spike should not be greater than 44 inches from the front edge of the device. The 44 inches represents the circumference of the 14 inch tire. For the extent of the main chains between the last spike and the bar, a series of cross chains 12 is provided between the two main chains of a pair. The cross chains serve to maintain the spacing between the main chains 12 and keep them parallel to one another.

The details of the arrangement between the various components that comprise the device is seen in FIG. 2. Two pairs of the main chains are illustrated. As can be seen, the bar 5 has the main chains 12 secured to it in a manner to be described later. The chains extend parallel to one another and perpendicular to the bar. The two main chains 10 of the pair are connected by cross chains 12 or the bases 20. The bases 20 are connected to the main chains 10 by retaining links 15. The adjacent main chains 10 of the two pair are connected to one another by break-away clips 13. The distance D between the two spikes varies one to eight inches and the width between the spikes of adjacent pairs are likewise separated by a distance of one to eight inches.

DIST AL